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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/090,315	06/04/1998	HOWARD E. RHODES	M4065.0059/P059	3755

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EXAMINER

GEBREMARIAM, SAMUEL A

ART UNIT	PAPER NUMBER
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2811

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/090,315

Applicant(s)

RHODES ET AL.

Examiner

Samuel A. Gebremariam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-4, 7-16, 28, 29 and 31-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-16 is/are allowed.
- 6) ☒ Claim(s) 2-4, 7-10, 28, 29 and 31-34 is/are rejected.
- 7) ☒ Claim(s) 35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Request for Continued Examination

1. A request for continued examination (RCE) under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/24/07 has been entered. An action on the RCE follows.
2. The amendment filed on 12/22/06 has been entered.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The limitation of "a package comprising a transparent material fully contained by said side walls and closed bottom and encapsulating said frame, support structure, and semiconductor imaging chip, said transparent material covering said chip, said photosensitive elements receiving said image through said transparent material" as recited in claim 7 is unclear what is encapsulating said frame, support structure, and semiconductor imaging chip.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 28 is rejected under 35 U.S.C. 102(b) as being anticipated by Ogiu et al., US patent No. 5,098,630.

Regarding claim 28, Ogiu teaches (fig. 5) an imaging device, comprising: a rigid housing (2) having a cavity/recess (3) defined by sidewalls (sidewalls of 2) and a closed bottom surface (bottom surface of 2); a semiconductor imaging chip (4) located within the cavity of the housing (2), the semiconductor imaging chip having an array of photosensitive elements (inherent characteristics of image pickup device) configured to receive and generate a corresponding image signal (operating characteristics of an imaging device), the photosensitive elements being covered by a transparent cover (22); the semiconductor imaging chip (4) being encapsulated in a transparent material (21), wherein the transparent material (21) is disposed within the cavity/recess and is fully contained (fully contained does not imply that the transparent material be in the cavity only) by the sidewalls (sidewalls of 2) and closed bottom of the housing (fig. 5); and an optical light transmitting device (13) configured to transmit light between an image the photosensitive (operational characteristics of an imaging device, also refer to col. 1, lines 40-50).

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Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 7, 3 and 4 are rejected under 35 U.S.C. 103(a) as being as being unpatentable over Ogiu, US patent No. 5,098,630 in view of Nobue et al., US patent No. 4,727,407.

Regarding claim 7, as best the examiner is able to ascertain the claimed invention, Ogiu teaches an imaging device (fig. 5) comprising: a frame (2) having a support structure (supporting structure 5), the support structure (2) comprising a cavity/recess (3) defined by side walls (sidewalls of 2) and a closed bottom (bottom surface 2); a semiconductor imaging chip (5) supported by the support structure (2); the semiconductor imaging chip having an array of photosensitive elements (inherent characteristics of image pickup device) configured to receive and generate a corresponding image signal (inherent property of imaging device), and a package (21) comprising a transparent material fully contained (fully contained does not imply that the transparent material be in the cavity only) by the sidewalls and closed bottom and encapsulating the frame (top portion of 2), support structure (top portion of 2), and semiconductor imaging chip (5), the transparent material (21) covering the chip (5), the

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photosensitive elements receiving the image through the transparent material (refer to fig. 5); wherein portions of the transparent material (21) allows light to pass through.

Ogiu does not explicitly state that portion of the transparent material have respective color tints to provide colored light filtering.

Nobue teaches (col. 7, lines 56-61) impregnating transparent resin film with coloring matter in order to use the transparent material as a color filter.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have tint or impregnating color matter as taught by Nobue in the structure of Ogawa in order to have a color filtering capability.

Regarding claim 3, Ogiu teaches substantially the entire claimed structure of claim 7 above including the transparent material (21) includes molded epoxy resin (transparent synthetic resin).

The limitation that the transparent material is injection-molded epoxy is not given patentable weight, because it is considered a product-by-process claim. "[E]ven though product-by process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

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Regarding claim 4, Ogiu teaches substantially the entire claimed structure of claim 7 above including leads (8) connected to the semiconductor material, the leads being partially encapsulated in the transparent material (21).

9. Claim, 2, 8-10 and 32 are rejected under 35 U.S.C. 103(a) as being as being unpatentable over Ogiu, Nobue and in view of Ogawa, US patent No. 6,291,811.

Regarding claim 2, Ogiu teaches substantially the entire claimed structure of claim 7 above except explicitly stating that the photosensitive elements are arranged in a two dimensional array.

It is conventional and also taught by Ogawa (refer to fig. 13) arranging photosensitive elements in a two dimensional array in the structure of forming a solid state imaging device with improved sensitivity (refer to the abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the two dimensional arrangement taught by Ogawa in the structure of Ogiu in order to form an imaging device with improved sensitivity.

Regarding claim 8, Ogiu teaches substantially the entire claimed structure of claim 7 above including the optical light-transmitting device (95d, Ogawa) is formed of the transparent material (95c, Ogawa).

Regarding claim 9, Ogiu teaches substantially the entire claimed structure of claim 7 above including the optical light-transmitting device is a lens (95d, Ogawa) being formed of the transparent material (95).

Regarding claim 10, Ogiu teaches substantially the entire claimed structure of claim 7 above including a color filter array into the transparent material (Ogawa, refer to col. 12, lines 25-29 and fig. 13).

Regarding claim 32, Ogiu teaches the entire claimed structure of claim 8 above including the optical light-transmitting device (95d, Ogawa) is a lens (Ogawa, fig. 16).

10. Claim 34 is rejected under 35 U.S.C. 103(a) as being as being unpatentable over Ogiu, Ogawa, Nobue and in view of Mantell, US patent No. 5,378,916.

Regarding claim 34, Ogiu teaches substantially the entire claimed structure of claim 8 above except explicitly stating that the optical transmitting device is color filter being supported separated from the package of the transparent material.

Mantell teaches (refer to col. 7, lines 57-69 and col. 8, lines 1-6, Mantell), where a color filter is formed separated from the package material.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the color filter separate from the package material as taught by Mantell in the structure of Ogiu in order fine tune the color acuity of the system (col. 7, lines 60-69).

11. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogiu in view Ogawa US patent No. 6,291,811.

Regarding claim 29, Ogiu teaches substantially the entire claimed structure of claim 28 except explicitly stating that the transparent cover includes color filter.

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Ogawa teaches an imaging device where the transparent cover includes a color filter (95a, figs. 15 and 16, refer to col. 12, lines 25-29).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the color filter taught by Ogawa in the structure of Ogiu in order to selectively allow light of certain wavelength.

12. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogiu, Ogawa in view of Mason et al., US patent No. 4,456,828.

Regarding claim 31, Ogiu teaches the entire claimed structure of claim 28 above except explicitly stating that the housing is formed of molded plastic.

Mason teaches an optical housing that is formed of molded plastic (fig. 1, col. lines 15-21).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the molded plastic taught by Mason in the structure of Ogiu in order to form a housing that provides either reflective or transmissive mode of operation (refer to the abstract).

13. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogiu, Ogawa in view of Chun, US patent No. 5,644,169

Regarding claim 33, Ogawa teaches substantially the entire claimed structure of claim 28 above except explicitly stating that the housing is formed of a ceramic material

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Chun teaches housing for a package that uses ceramic material (col. 1, lines 36-42).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the ceramic housing taught by Chun in the structure of Ogiu in order to improve heat dissipation property of the device.

Allowance

14. Claims 11-16 are allowed.

Allowable Subject Matter

15. Claim 35 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

16. Applicant's arguments filed 12/22/06 have been fully considered but they are not persuasive. Applicant argues that the reference by Ogiu does not disclose transparent material "fully contained by said side walls and closed bottom of said housing as recited in the claim 28. Referring to figure 5 of Ogiu, the transparent material (21) is contained by the sidewalls and the closed bottom of structure (2). The limitation that the transparent material is contained by said sidewalls and closed bottom of said housing does not preclude the transparent material (21) from over flowing the sidewalls.

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Conclusion

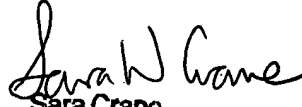
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel A. Gebremariam whose telephone number is (571)-272-1653. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Elms can be reached on (571) 272-1869. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SAG

April 2, 2007


Sara Crane
Primary Examiner